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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,497	12/10/2003	Kazunori Shimazaki	5000-5135	9233

27123 7590 04/20/2006
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EXAMINER

WEISKOPF, MARIE

ART UNIT	PAPER NUMBER
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3661

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/733,497

Applicant(s)

SHIMAZAKI ET AL.

Examiner

Marie A. Weiskopf

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-15 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/19/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's arguments, see pages 9-13, filed 1/31/06, with respect to the rejection(s) of claim(s) 1 under 102(a) have been fully considered and are persuasive for the amended claim 1. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art submitted in the IDS.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4 and 8-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuriya et al (EP 1,123,844 A1). Kuriya et al discloses a steering assist apparatus for parking comprising:

- In regard to claim 1, a parking assisting device with which a driver parks a vehicle into a target parking space by performing driving operations in accordance with guidance information (Abstract), comprising:
 - Image capturing means for capturing at least an image behind the vehicle (Page 3, paragraph 13)
 - A monitor arranged near a driver seat of the vehicle for displaying the image obtained by the image capturing means (Page 3, paragraph 13)

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- Yaw angle detecting means for detecting a yaw angle of the vehicle
(Page 3, paragraph 10)
- Guiding means for outputting the guidance information regarding the driving operations to the driver (Page 4, paragraphs 19-20)
- A controller for:
 - Comparing a pre-set prescribed yaw angle corresponding to a predetermined vehicle position with the yaw angle of the vehicle detected by the yaw angle detecting means to identify a current position of the vehicle (Page 4, paragraphs 23-24)
 - Providing the guidance information for guiding a parking path to the target parking space by driving the vehicle while maintaining a predetermined steering angle via the guiding means (Page 3, paragraphs 22-24). Kuriya et al discusses maintaining a predetermined steering angle and having line segments showing the position of the rear bumper if kept at the steering angle at different distances (Figure 3).
 - Displaying on the monitor at least one of a predicted path and a predicted parking position on the parking path guided by the guidance information so as to overlap the image obtained by the image capturing means to enable the driver to confirm whether or not the vehicle can be parked into the target space by continuing the driving operations in

accordance with the guidance information. (Page 4, paragraphs 22-24) Kuriya et al discusses showing the rear bumper where the vehicle reverses by one meter, 1.5 meters, 2.5 meters. This would be a predicted parking position for the vehicle and also a predicted parking path for the vehicle. (Figures 3A-3F)

- In regard to claim 2, wherein the controller calculates at least one of the predicted path and the predicted parking position of the vehicle to display it on the monitor when the driver operates the vehicle in accordance with the guidance information. (Page 4, paragraph 26)
- In regard to claim 3, wherein the controller displays at least one of the predicted path and the predicted parking position of the vehicle, both being set in advance, when the driver operates the vehicle in accordance with the guidance information. (Page 4, paragraph 26; Page 10, paragraph 74 – page 14, paragraph 104) Kuriya et al discusses backing up the vehicle until the target point overlaps with the steering start guide line and then it is possible to judge that the position is the space where the vehicle will be parked. (Figures 7A-7E)
- In regard to claim 4, wherein the controller gradually moves the display of at least one of the predicted path and the predicted parking position on the monitor such that the display of at least one of the predicted path and the predicted parking position is always at the same position with respect to

the image obtained by the image capturing means in accordance with a vehicle movement. (See Figures 3A-3F, 7A-7E)

- In regard to claim 8, wherein the controller displays at least one of the predicted path and the predicted parking position on the monitor so as to overlap with the image obtained by the image capturing means from a time when the parking assistance using the guidance information is started. (Page 4, paragraphs 19-20)
- In regard to claim 9, wherein the controller displays at least one of the predicted path and the predicted parking position on the monitor so as to overlap with the image obtained by the image capturing means from a time when the vehicle advances while maintaining a predetermined steering angle to reach a position where a reverse movement is started after parking assistance using the guidance information is started. (Page 10, paragraph 74 – page 14, paragraph 104)
- In regard to claim 10, the controller displays at least one of the predicted path and the predicted parking position on the monitor so as to overlap with the image obtained by the image capturing means before parking assistance using the guidance information is started (Figure 3A; Page 4, paragraph 19). Also, the vehicle is stopped based on a degree of overlapping of at least one of the displayed predicted path and the displayed predicted parking position with the target parking space in the image to be guided to a position where parking assistance using the

guidance information is to be started. (Figure 7A; Page 10, paragraph 74 – page 14, paragraph 104)

- In regard to claim 11, wherein the controller provides the guidance information for parking the vehicle by advancing the vehicle from the position where the parking assistance is started while maintaining a predetermined steering angle, steering the vehicle in an opposite direction with the vehicle being stopped, and driving the vehicle backward while maintaining the predetermined steering angle. (Page 10, paragraph 74 – page 14, paragraph 104)
- In regard to claim 12, wherein the controller provides the guidance information for parking the vehicle by driving the vehicle backward from the position where the parking assistance is started while maintaining a predetermined steering angle. (Page 3, paragraphs 23-24)
- In regard to claim 13, wherein the controller provides the guidance information for parking the vehicle by advancing the vehicle while maintaining a predetermined steering angle to reach a position where a reverse movement is started, steering the vehicle in an opposite direction with the vehicle being stopped and driving the vehicle backward while maintaining the predetermined steering angle. (Page 10, paragraph 74 – page 14, paragraph 104)
- In regard to claim 14, wherein the controller calculates at least one of the predicted path and the predicted parking position in the case where parking operations are conducted after parking assistance in accordance

with the guidance information is started and before the vehicle reaches a position where a reverse movement is started, and displays at least one of the calculated predicted path and the calculated parking position on the monitor so as to overlap with the image obtained by the image capturing means, and the vehicle is stopped based on a degree of overlapping of at least one of the displayed predicted path and the displayed predicted parking position with the target parking space in the image to be guided to the position where the reverse movement is started. (Page 10, paragraph 74 – page 14, paragraph 104)

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuriya et al (EP 1,123,844 A1) in view of Tanaka et al (US 6,950,035.)

Kuriya et al is discussed above and Tanaka et al discloses a parking assist system with image obtaining means and displaying means.

- In regard to claim 5, Kuriya et al fails to disclose comprising predicted parking position display moving means for moving a display of the predicted parking position to the target parking space in the image obtained by the image capturing means on the screen of the monitor,

through an operation conducted by the driver, and the controller updating the prescribed yaw angle based on a movement amount of the display of the predicted parking position which is moved by the predicted parking position display moving means and comparing the updated prescribed yaw angle with the yaw angle detected by the yaw angle detecting means to identify the current position of the vehicle and to provide the guidance information for parking assistance. Tanaka et al, as discussed in the previous office action, does disclose this. (See Figure 6; Column 4, lines 15 – 61) It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kuriya et al with the parking position display moving means taught by Tanaka et al in order for the drive to specifically pick where the vehicle should be parked and get guidance information to that position.

- In regard to claim 6, Tanaka et al, as discussed above, discloses a display moving means in order to change the position of the target parking position. In order to do this, it is inherent that there must be a movement amount storing means for storing the movement amount of the display of the predicted parking position which is moved by the predicted parking position display moving means, the controller displaying at least one of the predicted path and the predicted parking position based on the stored movement amount. If there was in way to store the movement amount, when the drive moved the display moving means to the desired target parking position the device would be unable to provide guidance

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information to that position since it would be unable to remember where the position was.

3. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuriya et al (EP 1,123,844 A1) in view of Takagi et al (US 2003/0080877).

Kuriya et al, discussed above, discloses a rear view image capturing means for capturing the image behind the vehicle (Page 7, paragraph 49), however, Kuriya et al fails to disclose a side image capturing means for capturing the image on a side of the vehicle. Kuriya et al does discuss the need to pick up the sides of the vehicle by using the rear camera to pick up the left and right sides of the rear and displaying such to the driver. Takagi et al discloses a side image capturing means. (See Figure 1) It would have been obvious to one having ordinary skill in the art at the time of the invention to include the side image capturing means disclosed by Takagi et al in order to modify Kuriya et al in order to provide a system which allows a vehicle to park in a variety of areas giving as much information as possible to the driver. (Takagi et al, Page 8, paragraph 88)

Allowable Subject Matter

4. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.**

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See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

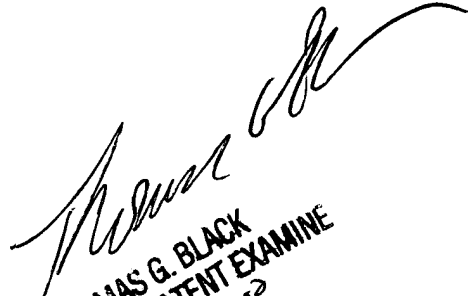
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marie A. Weiskopf whose telephone number is (571) 272-6288. The examiner can normally be reached on Monday-Thursday between 7:00 AM and 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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